

## ISSCC AWARDS

### 2006 Lewis Winner Award for Outstanding Paper

*"A Silicon 60GHz Receiver and Transmitter Chipset for Broadband Communications"*

**Brian Floyd, Scott Reynolds, Ullrich Pfeiffer, Troy Beukema, Janusz Grzyb, Chuck Haymes**  
IBM T.J. Watson Research, Yorktown Heights, NY

### 2006 Lewis Winner Award for Outstanding Paper

*"A 10Gb/s Photonic Modulator and WDM MUX/DEMUX Integrated with Electronics in 0.13 $\mu$ m SOI CMOS"*

**Andrew Huang, Cary Gunn, Yi Liang, Sina Mirsaidi, Adithyaram Narasimha, Thierry Pinguet**  
Luxtera, Carlsbad, CA

### 2006 Jack Kilby Award for Outstanding Student Paper

*"Comparator-Based Switched Capacitor Circuits for Scaled CMOS Techniques"*

**Todd Sepke, John K. Fiorenza, Charles G. Sodini, Peter Holloway, Hae-Seung Lee**  
Massachusetts Institute of Technology, Cambridge, MA

### 2006 Jack Raper Award for Outstanding Technology-Directions Paper

*"A Low-Power Integrated Circuit for a Wireless 100-Electrode Neural Recording System"*

**Reid R. Harrison<sup>1</sup>, Paul T. Watkins<sup>1</sup>, Ryan J. Kier<sup>1</sup>, Robert Owen Lovejoy<sup>2</sup>, Daniel J. Black<sup>3</sup>, Richard A. Normann<sup>1</sup>, Florian Solzbacher<sup>1</sup>**

<sup>1</sup>University of Utah, Salt Lake City, UT,

<sup>2</sup>Sandia, Albuquerque, NM

<sup>3</sup>SliceX, Draper, UT

### 2006 Takuo Sugano Award for Outstanding Far-East Paper

*"A 56nm CMOS 99mm<sup>2</sup> 8Gb Multi-Level NAND Flash Memory with 10MB/s Program Throughput"*

**Ken Takeuchi<sup>1</sup>, Yasushi Kameda<sup>1</sup>, Susumu Fujimura<sup>1</sup>, Hiroyuki Otake<sup>1</sup>, Koji Hosono<sup>1</sup>, Hitoshi Shiga<sup>1</sup>, Yoshihisa Watanabe<sup>1</sup>, Takuya Futatsuyama<sup>1</sup>, Yoshihiko Shindo<sup>1</sup>, Masatsugu Kojima<sup>1</sup>, Makoto Iwai<sup>1</sup>, Masanobu Shirakawa<sup>1</sup>, Kazuo Hatakeyama<sup>1</sup>, Kazuhisa Kanazawa<sup>1</sup>, Shigeo Ohshima<sup>1</sup>, Shinichi Tanaka<sup>1</sup>, Masayuki Ichige<sup>2</sup>, Kiyofumi Sakurai<sup>3</sup>, Naoya Tokiwa<sup>3</sup>, Hiroko Waki<sup>3</sup>, Yasumitsu Nozawa<sup>3</sup>, Adi Cernea<sup>4</sup>, Yan Li<sup>4</sup>, Mehrdad Mofidi<sup>4</sup>, Masaaki Higashitani<sup>4</sup>, Jun Wan<sup>4</sup>, Jeffrey Lutz<sup>5</sup>, Shouchang Tsao<sup>4</sup>, Gertjan Hemink<sup>6</sup>, Shinji Sato<sup>5</sup>, Ken Oowada<sup>5</sup>, Shih-Chung Lee<sup>5</sup>, Naoki Hayashida<sup>5</sup>, Teruhiko Kamei<sup>5</sup>, Jia-Yi Fu<sup>5</sup>**

<sup>1</sup>Toshiba, Yokohama, Japan, <sup>2</sup>Toshiba, Yokkaichi, Japan

<sup>3</sup>Toshiba Microelectronics, Yokohama, Japan

<sup>4</sup>SanDisk, Milpitas, CA, <sup>5</sup>SanDisk, Yokohama, Japan

### 2006 Takuo Sugano Award for Outstanding Far-East Paper

*"An 8Gb/s/pin 9.6ns Row-Cycle 288Mb Deca-Data Rate SDRAM with an I/O Error-Detection Scheme"*

**Kyu-hyun Kim, Uksong Kang, Hoe-Ju Chung, Dukha Park, Woo-Seop Kim, Young-Chan Jang, Moonsook Park, Hoon Lee, Jinyoung Kim, Jung Sunwoo, Hwanwook Park, Hyun-Kyoung Kim, Seo-Yoon Chung, Jaekwan Kim, Hyung-Seuk Kim, Kee-Won Won, Young-Taek Lee, Joo Sun Choi, Changhyun Kim**  
Samsung, Hwasung, Korea

### 2006 Jan Van Vessel Award for Outstanding European Paper

*"A CMOS Temperature-to-Frequency Converter with an Inaccuracy of  $\pm 0.5^\circ$  ( $3\sigma$ ) from -40 to 105°C"*

**Kofi A.A. Makinwa, Martijn F. Snoeijs**  
Delft University of Technology, Delft, The Netherlands

### 2006 Jan Van Vessel Award for Outstanding European Paper

*"A 128x128 120dB 30mW Asynchronous Vision Sensor that Responds to Relative Intensity Change."*

**Patrick Lichtsteiner<sup>1</sup>, Christoph Posch<sup>2</sup>, Tobi Delbruck<sup>1</sup>**

<sup>1</sup>Institute of Neuroinformatics, Zurich, Switzerland

<sup>2</sup>Neuroinformatik, Wien, Austria

### 2006 Evening Panel Award

*"Present (and Future) Classic Circuits with Less than 25 Transistors"*

Organizer:

**JoAnn Close**

Analog Devices, San Jose, CA

Moderator:

**Bill Redman-White**

NPX Semiconductors, Southampton, UK

Panelists:

**Klaas Bult**, Broadcom, Bunnik, The Netherlands

**Bob Dobkin**, Linear Technology, Milpitas, CA

**Barrie Gilbert**, Analog Devices, Beaverton, OR

**Tom Lee**, Stanford University, Stanford, CA

**Takahiro Miki**, Renesas Technology, Hyogo, Japan

**Yannis Tsividis**, Columbia University, New York, NY

### 2006 Special-Topic Evening Award

*"CMOS RF Design in 90nm and Beyond"*

Organizer:

**David Su**

Atheros Communications, Santa Clara, CA

Chair:

**Tony Montalvo**

Analog Devices, Raleigh, NC

Speakers:

**Maarten Vertregt**, Philips Research Labs, Eindhoven, The Netherlands

**Sally Liu**, TSMC, Hsinchu, Taiwan

**Behzad Razavi**, University of California, Los Angeles, CA

**Bill Krenik**, Texas Instruments, Dallas, TX

### 2007 Beatrice Winner Award for Editorial Excellence

*"Minimum Energy Tracking Loop with Embedded DC-DC Converter Delivering Voltages down to 250mV to 65nm CMOS"*

**Yogesh K. Ramadass, Anantha P. Chandrakasan**

Massachusetts Institute of Technology, Cambridge, MA

### 2007 Beatrice Winner Award for Editorial Excellence

*"A 23-to-29GHz Differentially Tuned Varactorless VCO in 0.13 $\mu$ m CMOS"*

**KaChun Kwok<sup>1</sup>, John R. Long<sup>1</sup>, John J. Pekarik<sup>2</sup>**

<sup>1</sup>Delft University of Technology, Delft, The Netherlands

<sup>2</sup>IBM Microelectronics, Burlington, VT

### 2007 Beatrice Winner Award for Editorial Excellence

*"A 75GHz PLL in 90nm CMOS Technology"*

**Jri Lee**

National Taiwan University, Taipei, Taiwan

### 2007 ISSCC Silkroad Award\*

*"10b Driver IC Using 7b Resistor-String DAC and 3b DAC Embedded Output Buffer for Spatial Optical Modulator of Full HDTV Applications"*

**Jin-Seong Kang**, et al

Hanyang University, Seoul, Korea

\* Awarded to a student from a Far-East university for an outstanding first paper at ISSCC

*"Fine-Grained In-Circuit Continuous-Time Probing Technique of Dynamic Supply Variations in SoCs"*

**Mitsuya Fukazawa**, et al  
Kobe University, Kobe, Japan

*"A 230-500mV, 375K-16MHz, 32b RISC Core in 0.18 $\mu$ m CMOS"*

**Jian-Shiun Chen**, et al  
National Chung-Cheng University, Chia-Yi, Taiwan

*"A 2W CMOS Hybrid Switching Amplitude Modulator for EDGE Polar Transmitter"*

**Tae-Woo Kwak**, et al  
KAIST, Daejeon, Korea

*"40GHz Wide-Locking-Range Regenerative Frequency Divider and Low-Phase-Noise Balanced VCO in 0.18 $\mu$ m CMOS"*

**Jun-Chau Chien**, et al  
National Taiwan University, Taipei, Taiwan

## 2006 A-SSCC/ISSCC Student-Design-Contest Winners

*"A TCAM-based Periodic Event Generator for Multi-Node Management in the Body Sensor Network"*

**Sungdae Choi, Kyomin Sohn, Jooyoung Kim, Jerald Yoo, Hoi-Jun Yoo**,  
KAIST, Daejeon, Korea

*"A 0.98 to 6.6GHz Tunable Wideband VCO in a 180nm CMOS Technology for Reconfigurable Radio Transceiver"*

**Yusaku Ito, Hirotaka Sugawara, Kenichi Okada, Kazuya Masu**,  
Tokyo Institute of Technology, Tokyo, Japan

*"A 1.5MS/s 6-bit ADC with 0.5V Supply"*

**Simone Gambini, Jan Rabaey**,  
University of California, Berkeley, CA

## 2007 DAC/ISSCC Student-Design-Contest Winners

*"The Scale Vector Thread Processor"*

**Ronny Krashinsky, Christopher Batten, Krste Asanovic**,  
Massachusetts Institute of Technology, Cambridge, MA

*"Design of an Ultra-Low-Voltage UWB Baseband Processor"*

**Vivienne Sze, Anantha P. Chandrakasan**  
Massachusetts Institute of Technology, Cambridge, MA

*"An Energy-Efficient Reconfigurable Multiprocessor IC for DSP Applications"*

**Guichang Zhong, Alan N. Willson, Jr.**  
University of California, Los Angeles, CA

*"A 252Kbytes/4.9Kbytes SRAM/71mW Multi-Standard Video Decoder for High Definition Video Applications"*

**Chih-Da Chien<sup>1</sup>, Chien-Chang Lin<sup>1</sup>, Yi-Hung Shih<sup>1</sup>, He-Chun Chen<sup>1</sup>, Chih-Wei Wang<sup>1</sup>, Cheng-Yen Yu<sup>1</sup>, Chih-Liang Chen<sup>2</sup>, Ching-Hwa Cheng<sup>2</sup>, Jiun-In Guo<sup>1</sup>**

<sup>1</sup>National Chung-Cheng University, Chia-Yi, Taiwan

<sup>2</sup>Feng-Chia University, Taichung, Taiwan

*"HBS: a Handheld Breast Cancer Detector Based on Frequency Domain Photon Migration"*

**Keun-Sik No, Qiang Xie, Richard Kwong, Pai H. Chou**  
University of California, Irvine, CA

*"A 94dB SFDR 78dB DR 2.2MHz BW Multi-bit Delta-Sigma Modulator with Noise Shaping DAC"*

**Jianzhong Chen, Yong Ping Xu**  
National University of Singapore, Singapore

*"A 230mV-to-500mV 375KHz-to-16MHz 32b RISC Core in 0.18 $\mu$ m CMOS"*

**J.-S. Chen, Y.-M. Wang, Y.-J. Chang, J.-S. Wang, C. Yeh, T.-F. Chen**

National Chung-Cheng University, Chia-Yi, Taiwan

*"A 152mW/195mW Multimedia Processor with Fully Programmable 3D Graphics and MPEG/H.264/JPEG for Handheld Devices"*

**Jeong-Ho Woo<sup>1</sup>, Ju-Ho Sohn<sup>1</sup>, Hyejung Kim<sup>1</sup>, Jongcheol Jeong<sup>2</sup>, Euljoo Jeong<sup>2</sup>, Suk Joong Lee<sup>2</sup>, Hoi-Jun Yoo<sup>1</sup>**

<sup>1</sup>KAIST, Daejeon, Korea

<sup>2</sup>Corelogic, Seoul, Korea

*"A Wireless Implantable Microsystem for Continuous Blood Glucose Monitoring"*

**Mohammad M. Ahmadi, Graham A. Jullien**  
University of Calgary, Calgary, Canada

## IEEE SOLID-STATE CIRCUITS SOCIETY AWARDS

### 2007 IEEE Donald O. Pederson Award in Solid-State Circuits

*"For leadership in integrated circuit design and design methodology"*

**Hugo De Man**  
IMEC, Leuven, Belgium

### 2007 IEEE Gustav Robert Kirchhoff Award

*"For contributions to circuits and MOS device modeling"*

**Yannis P. Tsividis**  
Columbia University, New York, NY

### 2005 Journal of Solid-State Circuits Best Paper Award

*"A CMOS smart temperature sensor with a 3 sigma inaccuracy of +/- 0.1% from -55 degrees C to 125 degrees C"*

**Michiel A. P. Pertijs, Kofi A. A. Makinwa, Johan H. Huijsing**  
Delft University of Technology, Delft, The Netherlands

### 2007 IEEE Fellows

**Kerry Bernstein**

IBM

*"For contributions to high performance common metal oxide semiconductor circuit design"*

**Wanda Gass**

Texas Instruments

*"For contributions to digital signal processors and circuits"*

**Takayuki Kawahara**

Hitachi

*"For contributions to low-voltage low-power random access memory circuits"*

**Stefan Rusu**

Intel

*"For contributions to high performance microprocessor circuit technologies"*

**Sehat Sutardja**

Marvell Semiconductor

*"For leadership in design and commercialization of high-speed mixed-signal common metal oxide semiconductors integrated circuits"*

**Masakazu Yamashina**

NEC Electronics

*"For contributions in high performance microprocessor circuits"*